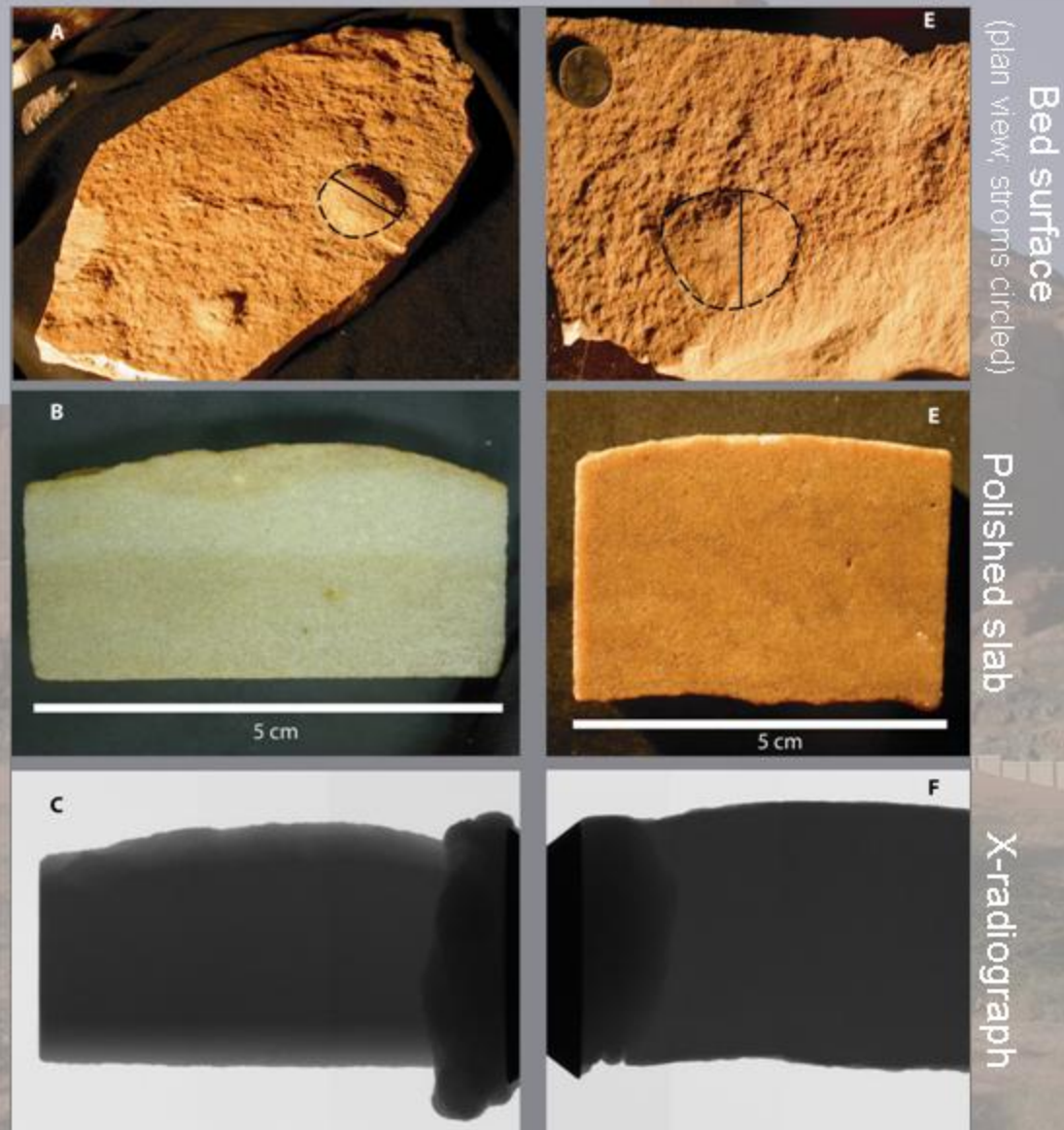


# Influence of Horizontally-Oriented Bioturbation and Microbial Communities on Marginal Marine Sandstones

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Although microbes are pervasive in most sandy marine environments and can contribute significant organic carbon to benthic sediments, we know little about how they have affected sediment properties in ancient systems. Using well-preserved quartz arenites from Upper Cambrian strata of Laurentia as a case study, the microfabric and internal structure of microbially bound sandstones was examined. Initial focus was on sand stromatolites, which are low-relief domal buildups of sand produced by microbial agglutination coupled with trapping and binding of sand. Serially sectioned sand stromatolites (illustrated at right) were examined for variations in fabric, composition, and porosity using both standard reflected light microscopy, petrography, and X-radiography. Internal laminations or changes in microfabric were not visible within or across stromatolite cores.



Above: Sand stromatolites, Elk Mound Gp, WI